

sub 3/B4 19. (Twice Amended) A method as claimed in [any one of claims 1 to 7] claim 1 wherein the non-visual detection means is a FANS device.

B5 21. (Twice Amended) A method as claimed in [any one of claims 1 to 7] claim 1 wherein the step of detecting a signal comprises detecting the size and/or developmental stage of the nematode worms using a FANS device.

sub 4/B6 23. (Twice Amended) A method as claimed in [any one of claims 1 to 7] claim 1 wherein step (a) comprises dispensing substantially equal volumes of a homogeneous suspension of nematode worms into each of the wells of the multi-well assay plate.

sub 4/B7 27. (Twice Amended) A method as claimed in [any one of claims 1 to 7] claim 1 wherein the nematode worms are synchronized in the same growth stage.

sub 4/B8 30. (Twice Amended) A method as claimed in [any one of claims 1 to 7] claim 1 wherein the nematode worms are a wild type strain, a mutant strain, a transgenic strain or a humanized strain.

sub 5/B9 36. (Twice Amended) A method as claimed in [any one of claims 1 to 7] claim 1 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to increase the viscosity of the medium.

sub 5/B10 40. (Twice Amended) A method as claimed in [any one of claims 1 to 7] claim 1 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to prevent the nematode worms from sticking to the wells of the multi-well plate.

sub 5/B11 41. (Amended) A method as claimed in claim [41] 40 wherein the water soluble polymer is polyethylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

B12 51. (Amended) A method as claimed in [any one of claims 44 to 50] claim 44 wherein the nematode worms are microscopic nematodes.

B13 53. (Twice Amended) A method as claimed in [any one of claims 44 to 50] claim 44 wherein the step of detecting changes in the pharynx pumping rate comprises contacting the nematode worms with a marker molecule which generates a signal when taken up by nematode worms and detecting the said signal using non-visual detection means.

B¹⁴ 58. (Twice Amended) A method as claimed in [any one of claims 44 to 50] claim 44 wherein the non-visual detection means is a multi-well plate reader.

B¹⁵ 60. (Twice Amended) A method as claimed in [any one of claims 44 to 50] claim 44 wherein the non-visual detection means is a FANS device.

B¹⁶ 62. (Twice Amended) A method as claimed in [any one of claims 44 to 50] claim 44 wherein said nematode worms are wild-type mutant, transgenic or humanized *C. elegans*.

B¹⁷ 74. (Twice Amended) A method as claimed in [any one of claims 44 to 50] claim 44 wherein the nematode worms are synchronized in the same growth stage.

B¹⁸ 77. (Twice Amended) A method as claimed in [any one of claims 44 to 50] claim 44 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to increase the viscosity of the medium.

B¹⁹ 81. (Twice Amended) A method as claimed in [any one of claims 44 to 50] claim 44 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to prevent the nematode worms from sticking to the wells of the multi-well plate.

B²⁰ 90. (Amended) A method as claimed in claim 88 [or claim 89] wherein the genetically encoded marker molecule is expressed in cells of the pharynx, vulva muscles, body wall muscles or neurons of the transgenic *C. elegans*.

B²¹ 91. (Twice Amended) A method as claimed in [any one of claims 86 to 89] claim 86 wherein the non-visual detection means is a multi-well plate reader.

B²² 93. (Twice Amended) A method as claimed in [any one of claims 86 to 89] claim 86 wherein the non-visual detection means is a FANS device.

B²³ 95. (Twice Amended) A method as claimed in [any one of claims 86 to 89] claim 86 wherein the nematodes are synchronised in the same growth stage.

B²⁴ 105. (Twice Amended) A method as claimed in [any one of claims 98 to 104] claim 98 wherein the nematode worms are microscopic nematodes.

B²⁵ 107. (Twice Amended) A method as claimed in [any one of claims 98 to 104] claim 98 wherein the step of detecting changes in the movement behaviour of the nematode worms

B²⁵
comprises measuring the level of autofluorescence a sub-region of the material in the wells of the multi-well assay plate.

108. (Twice Amended) A method as claimed in [any one of claims 98 to 104] claim 98 wherein the non-visual detection means is a multi-well plate reader.

B²⁶
110. (Twice Amended) A method as claimed in [any one of claims 98 to 104] claim 98 wherein the nematode worms are synchronized in the same growth stage.

B²⁷
113. (Twice Amended) A method as claimed in [any one of claims 98 to 104] claim 98 wherein the nematode worms are a wild type strain, a mutant strain, a transgenic strain or a humanized strain.

B²⁸
119. (Twice Amended) A method as claimed in [any one of claims 98 to 104] claim 98 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to increase the viscosity of the medium.

B²⁹
123. (Twice Amended) A method as claimed in [any one of claims 98 to 104] claim 98 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to prevent the nematode worms from sticking to the wells of the multi-well plate.

B³⁰
132. (Amended) A method as claimed in [any one of claims 127 to 131] claim 127 wherein the nematode worms are microscopic nematodes.

B³¹
148. (Twice Amended) A method as claimed in claim 146 [or claim 147] wherein expression of the toxic gene is driven by the lin-31 promoter, the egl-17 promoter, the unc-17 promoter or the unc-53 promoter.

B³²
151. (Twice Amended) A method as claimed in [any one of claims 127 to 131] claim 127 wherein the step of detecting the amount of eggs or offspring produced comprises adding a specific antibody which binds to eggs, L1 stage, L2 stage, L3 stage or L4 stage nematodes and detecting complexes formed by binding of the antibody to eggs, L1 stage, L2 stage, L3 stage or L4 stage nematodes using non-visual detection means.

152. (Twice Amended) A method as claimed in [any one of claims 127 to 131] claim 127 wherein the non-visual detection means is a multi-well plate reader.

B³² 153. (Twice Amended) A method as claimed in [any one of claims 127 to 131] claim 127 wherein the step of detecting the amount of eggs or offspring comprises directly counting the numbers of eggs or offspring using a FANS device.

154. (Twice Amended) A method as claimed in [any one of claims 127 to 131] claim 127 wherein the step of detecting the amount of eggs produced comprises detecting the activity an enzyme released from the eggs on hatching.

B³³ 156. (Twice Amended) A method as claimed in [any one of claims 127 to 131] claim 127 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to increase the viscosity of the medium.

B³⁴ 160. (Twice Amended) A method as claimed in [any one of claims 127 to 131] claim 127 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to prevent the nematode worms from sticking to the wells of the multi-well plate.

B³⁵ 178. (Amended) A method as claimed in claim 176 [or claim 177] wherein expression of the toxic gene is driven by the unc-43 promoter or the unc-25 promoter.

B³⁶ 179. (Twice Amended) A method as claimed in [any one of claims 164 to 177] claim 164 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to increase the viscosity of the medium.

B³⁷ 183. (Twice Amended) A method as claimed in [any one of claims 164 to 177] claim 164 wherein the method is performed in a liquid assay medium containing a water soluble polymer at a concentration sufficient to prevent the nematode worms from sticking to the wells of the multi-well plate.

If any other information is needed, please contact the undersigned attorney by phone (617-720-3500, Ext. 343) to expedite the further prosecution of this patent application.

Respectfully submitted,



Elizabeth R. Plumer, Reg. No. 36,637
WOLF, GREENFIELD & SACKS, P.C.
600 Atlantic Avenue
Boston, MA 02210
Tel. (617)720-3500

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